

Flexure Plate Capacitive Compass

Abstract

A compass system includes a platform defining an x-axis, a y-axis and an xy-plane, wherein a z-axis is orthogonal to the xz-plane. A beam is rotatably coupled to the platform such that the beam rotates about the y-axis. An accelerometer including a flexure plate perpendicular to the y-axis is coupled to the beam a distance from the y-axis. The accelerometer generates an accelerometer signal in response to movement of the flexure plate. An angular position sensor senses angular position of the beam relative to the x-axis and y-axis, the angular position sensor generating an angular position signal therefrom. A processor receives the accelerometer signal and the angular position signal and generates an East-West signal therefrom.